1 Watts
IW Series

- Regulated Single & Dual Output
- Wide 2:1 Input Range
- SIP or DIP Package
- 1000 VDC Isolation
- Optional 3000 VDC Isolation
- Continuous Short Circuit Protection
- MTBF >2.7 MHrs

Specification

Input

Input Voltage Range	• 5 V models: 4.5 - 9.0 V 12 V models: 9.0 - 18.0 V 24 V models: 18.0 - 36.0 V 48 V models: 36.0 - 72.0 V
Input Reflected Ripple	• 35 mA pk-pk through 12 µH inductor 5 Hz to 20 MHz
Input Current	• See table
Input Filter	• Capacitor

Output

Output Voltage	• See table
Line Regulation	• ±0.5% max
Load Regulation	• ±1.0% max from 25-100% load
Setpoint Accuracy	• ±2% max
Start Up Rise Time	• 100 ms typical
Ripple & Noise	• 80 mV pk-pk max 20 MHz BW. See note 6
Temperature Coefficient	• 0.02%/°C
Short Circuit Protection	• Continuous with auto recovery
Current Limiting	• Typically 110% of max Iout
Cross Regulation	• ±5%
Transient Response	• ±3% deviation recovering to <1% within 300 µs for 25% load change
Maximum Capacitive Load	• See table
Remote On/Off	• Optional on SIP package models applying 5 V via 1 kΩ current limiting resistor & diode turns output off (see note 4)

General

Efficiency	• See table
Isolation Voltage	• 1000 VDC, optional 3000 VDC (see note 2)
Isolation Resistance	• 10^9 Ω
Isolation Capacitance	• 60 pF typical
Switching Frequency	• 100-650 kHz typical
MTBF	• >2.7 MHrs to MIL-STD-217F

Physical

Case Material	• Non-conductive black plastic (UL94V-0 rated). Optional metal: nickel coated copper
Pin Material	• SIP case: Alloy 42 solder coated DIP case: ø0.5 mm brass solder coated
Potting Material	• Epoxy (UL94V-0 rated)
Lead Soldering Temperature	• 260 °C 1.5 mm from case for 10 s

Environmental

Operating Temperature	• -40 °C to +85 °C, derate from 100% load at 85 °C to 0% load at 100 °C
Storage Temperature	• -40 °C to +125 °C
Case Temperature	• 100 °C max
Cooling	• Convection-cooled
Humidity	• 95% RH, non condensing

Models and Ratings

IW XP

Input Voltage	No Load Input Current	Full Load Input Current	Output Voltage	Output Current	Efficiency	Max Capacitive load		Model Number[1-6]
						Single Output	Dual Output	
4.5-9.0 V	15 mA	298 mA	3.3 V	303 mA	67%	3300 µF	±1000 µF	IW0503SA
	15 mA	298 mA	5.0 V	200 mA	67%	3300 µF	±1000 µF	IW0505SA
	40 mA	285 mA	9.0 V	111 mA	70%	470 µF	±220 µF	IW0509SA
	55 mA	285 mA	12.0 V	83 mA	70%	470 µF	±220 µF	IW0512SA
	55 mA	285 mA	15.0 V	67 mA	70%	470 µF	±220 µF	IW0515SA
	70 mA	294 mA	24.0 V	42 mA	68%	220 µF	±100 µF	IW0524SA
9.0-18.0 V	15 mA	119 mA	3.3 V	303 mA	70%	3300 µF	±1000 µF	IW1203SA
	15 mA	115 mA	5.0 V	200 mA	72%	3300 µF	±1000 µF	IW1205SA
	15 mA	115 mA	9.0 V	111 mA	77%	470 µF	±220 µF	IW1209SA
	15 mA	108 mA	12.0 V	83 mA	77%	470 µF	±220 µF	IW1212SA
	15 mA	108 mA	15.0 V	67 mA	77%	470 µF	±220 µF	IW1215SA
	15 mA	114 mA	24.0 V	42 mA	73%	220 µF	±100 µF	IW1224SA
18.0-36.0 V	8 mA	59 mA	3.3 V	303 mA	70%	3300 µF	±1000 µF	IW2403SA
	8 mA	57 mA	5.0 V	200 mA	72%	3300 µF	±1000 µF	IW2405SA
	8 mA	55 mA	9.0 V	111 mA	75%	470 µF	±220 µF	IW2409SA
	8 mA	55 mA	12.0 V	83 mA	75%	470 µF	±220 µF	IW2412SA
	8 mA	55 mA	15.0 V	67 mA	75%	470 µF	±220 µF	IW2415SA
	8 mA	55 mA	24.0 V	42 mA	75%	220 µF	±100 µF	IW2424SA
36.0-72.0 V	6 mA	31 mA	3.3 V	303 mA	66%	3300 µF	±1000 µF	IW4803SA
	6 mA	30 mA	5.0 V	200 mA	68%	3300 µF	±1000 µF	IW4805SA
	6 mA	29 mA	9.0 V	111 mA	70%	470 µF	±220 µF	IW4809SA
	6 mA	29 mA	12.0 V	83 mA	70%	470 µF	±220 µF	IW4812SA
	6 mA	29 mA	15.0 V	67 mA	70%	470 µF	±220 µF	IW4815SA
	6 mA	30 mA	24.0 V	42 mA	68%	220 µF	±100 µF	IW4824SA

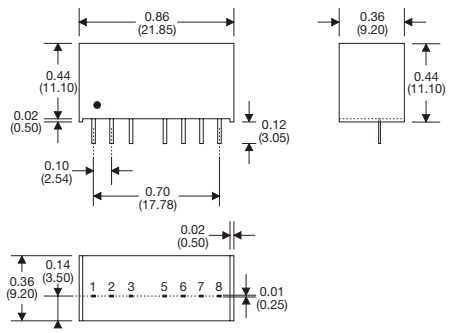
Notes

1. For dual inline package replace 'S' in model number with 'D'.
2. For optional 3 kV isolation add suffix '-H' to the model number.
3. For dual output delete suffix 'A' & split output currents equally between rails.
4. For optional Remote On/Off on SIP models, add suffix '-R' to model number.
5. For optional metal case, add suffix '-M' to model number.
6. Output capacitor of 100 µF required to meet quoted ripple & noise.
7. Minimum load of 25% required to meet quoted specifications.

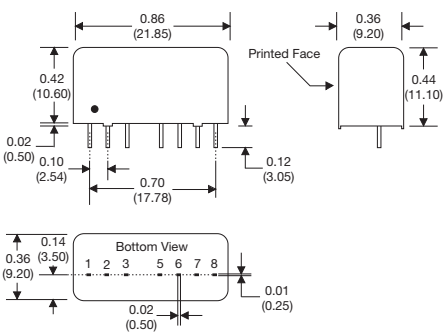
Mechanical Details

Dimensions are in inches (mm)
Weight: Plastic case = 4.5 g
Metal case = 6.5 g

SIP Package - Non-conductive Plastic Case



SIP Package - Nickel Coated Copper Case

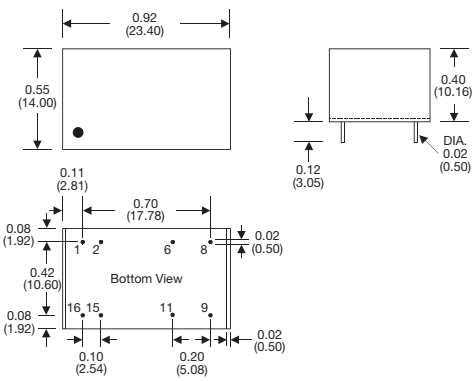


PIN CONNECTIONS		
Pin	Single	Dual
1	-V Input	-V Input
2	+V Input	+V Input
3	Opt. ROF*	Opt. ROF**
5	N.P. / N.C.	N.C.
6	+V Output	+V Output
7	-V Output	-V Output
8	NC	Common

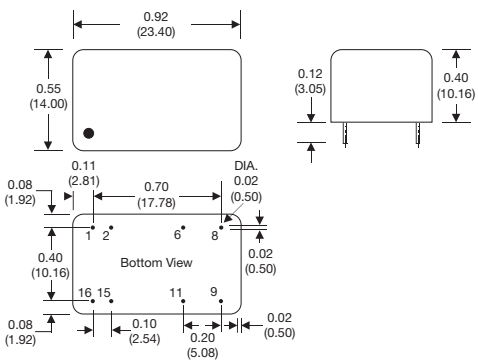
*When optional ROF is present pin 5 is No Connection. When not present pin 3 & 5 are No Pin.

**When optional ROF is present pin 5 is No Connection. When not present pin 3 & 5 are No Connection.

DIP Package - Non-conductive Plastic Case



DIP Package - Nickel Coated Copper Case



Dimensions are in inches (mm)
Weight: Plastic case = 6.0 g
Metal case = 8.0 g

PIN CONNECTIONS		
Pin	Single	Dual
1	-V Input	-V Input
2	-V Input	-V Input
6	NC	Common
8	NC	-V Output
9	+V Output	+V Output
11	-V Output	Common
15	+V Input	+V Input
16	+V Input	+V Input